

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 12 MAR 2004

WIPO PCT

Applicant's or agent's file reference 209143/KCS/DG	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/IB 2002/005597	International filing date (day/month/year) 20-12-2002	Priority date (day/month/year) 28-12-2001
International Patent Classification (IPC) or national classification and IPC H04L 29/06, H04L 12/56		
Applicant Nokia Corporation et al		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p style="margin-left: 20px;">a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions);</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p style="margin-left: 20px;">b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																									
<p>4. This report contains indications relating to the following items:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 20%;">Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>		<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
<input checked="" type="checkbox"/>	Box No. I	Basis of the report																							
<input type="checkbox"/>	Box No. II	Priority																							
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability																							
<input type="checkbox"/>	Box No. IV	Lack of unity of invention																							
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																							
<input type="checkbox"/>	Box No. VI	Certain documents cited																							
<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application																							
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																							

Date of submission of the demand 26-05-2003	Date of completion of this report 04-03-2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 7033 S-122 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Ralf Boström /LR Telephone No. +46 8 782 25 00

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ the international application as originally filed/furnished

☐ the description:

pages _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the claims:

pages _____ as originally filed/furnished

pages* _____ as amended (together with any statement) under Article 19

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the drawings:

pages _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-28</u>	YES
	Claims	<u>---</u>	NO
Inventive step (IS)	Claims	<u>1-28</u>	YES
	Claims	<u>---</u>	NO
Industrial applicability (IA)	Claims	<u>1-28</u>	YES
	Claims	<u>---</u>	NO

2. Citations and explanations (Rule 70.7)

Documents cited in the International Search Report:

D1. "RFC 2977: Mobile IP Authentication, Authorisation and Accounting Requirement".

D2. "Internet Draft: DIAMETER Dial-Up (ROAMOPS) Extensions".

D3. "3GPP TSG SA WG3 Security S3#19, S3-010382, Newbury, UK: Flows related to Authenticated Registrations and Re-Registrations".

D4. "3GPP TSG SA WG3 Security S3#19, S3-010402, Newbury, UK: Requirements related to private and public identities in IMS".

D5. "Internet Draft: Diameter Base Protocol."

D6. "Internet Draft: DIAMETER: Policy and Accounting Extension for SIP".

D7. WO 0184765 A

D8. EP 1111872 A

In order to maintain an acceptably high level of security in a communication system the authorization of a user should be verified at predetermined intervals. Verification of users creates a lot of traffic in communication systems and leads to delay of services. This is especially problematic in wireless systems where the bandwidth is very limited. The aim of the present application is to solve this problem.

D1, which is considered to represent the most relevant state of the art, discloses a method for authentication and authorization in a mobile IP system. Mobile IP is a technology that allows a network node to migrate from its "home" network to other "foreign" networks. If a client requests a service from a foreign network a local authority (AAAL) in the foreign network negotiates the verification of the client with a home authority (AAAH) in the home network. Once the authorization has been obtained by the AAAL the service can be provided to the user (see section 3). .../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

D2 discloses extensions to an authentication protocol called DIAMETER. In D2 an AA-request is used in order to request authentication and authorization for a given user. The AA-request contains an authentication bit and an authorization bit. If only the authentication bit is set, the response must not include authorization information. If only the authorization bit is set, the response must not include authentication information. To make sure that a user is both authenticated and authorized, neither bit is set.

The invention differs from D1 and D2 in that a specific record is used for determining if a user is to be verified before he can be provided with a specific service. Such a record is not disclosed in D1 or D2. Further, there are no suggestions in D1 or D2 that would lead the skilled person to include this feature in the systems described in D1 and D2.

D3, D4, D5, D6, D7 and D8 are background art documents that are not considered to be of any particular relevance.

Thus, the invention according to claims 1-28 is considered to fulfil the requirements of novelty, inventive step and industrial applicability.

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

The figures are not published in correct order. Figure 6 is published on page 3 and figure 5 is published on page 4.